



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

mulus; and, 4thly, the ovum, which is contained in the cavity just mentioned. The human ovum is so small as to be only just perceptible to the naked eye, being the 150th part of an inch in diameter. It has a soft transparent envelope of considerable thickness, and contains a substance composed of grains, adhering together by the intervention of a delicate mucous tissue. At the inner surface of the envelope, the author discovered a delicate transparent vesicle, about the 900th part of an inch in diameter, and having on one side a small elevation, which, projecting among the grains composing the walls of the granular sac, fixes the vesicle in its place. The author considers this vesicle as being analogous to that described by Professor Purkinje in the cicatrice of the immature eggs of birds, and which exists also in the ova of other oviparous animals, and is termed by Baer the *germinal vesicle*.

The author has also examined the ova of the cow, sheep, sow, rabbit, rat, and mouse; and has found in all these animals a germinal vesicle, differing in no essential particular from the human structure, and in size bearing a proportion to that of the ovum as one to six.

Although there is, at first sight, a considerable resemblance between the nucleus of the vesicle of De Graaf and the immature yelk of the egg of a bird, the author thinks, contrary to the opinion of Baer, that there is no real analogy between them; because, in the Graafian vesicle of the Mammalia there is no membrane surrounding its nucleus similar to the vitellary membrane of the ovum in birds, nor does this latter membrane appear first under the form of a granular membrane. The vesicle of Purkinje consists merely of a delicate capsule containing a fluid; while in the minute ovum of Mammalia there are found all the essential elements of the egg of birds and other Ovipara, namely, an external membrane, analogous to the vitellary membrane, but performing a different function; a granular membrane, containing a thin fluid, corresponding to the immature yelk of a bird's egg; and a vesicle in every respect analogous to the vesicle which Purkinje found in the hen's egg, while still lodged in the ovary. The author considers the granular membrane, proligerous disc, and granular fluid of the Graafian vesicle, as parts which are superadded, and of which there is no trace within the capsule of the ovary of a bird.

“ Some Remarks on the difficulty of distinguishing certain genera of Shells; and on some Anomalies observed in the Habitations of certain species of Mollusca.” By John Edward Gray, Esq., F.R.S.

In opposition to the opinion of those geologists who consider that all shells of the same form and character have been inhabited by one genus of animals; that all the species of a genus live in similar situations; and that all the species of fossil shells, appearing from their character to belong to some recent genus, have been formed by animals which in their living state had the same habits as the most commonly observed species of that genus,—the author proposes to show, first, that shells having the appearance of belonging to the same natural genus are sometimes inhabited by very different animals; and, secondly, that some species of shell-bearing molluscous animals live in dif-

ferent situations from the majority of the species of the genus to which they belong, or even have the faculty of living in several different situations. Thus, although the animals inhabiting the shells belonging to the genera *Patella* and *Lottia* are extremely dissimilar in many essential features of their organization, the shells they form cannot be distinguished from one another by any known character. In other instances, when the animals are very different, the distinctive characters of the respective shells belonging to them are so slight as to be insufficient for the purpose of classing them under separate species ; and this difficulty of discrimination must be much increased in the cases of fossil shells, especially of those which have no strictly analogous forms among recent shells.

In support of the position advanced in the second part of the paper, namely, that numerous exceptions occur to the identity of habitation among all the species of the same genus of conchiferous Mollusca, the author adduces examples : 1st, where the species of a genus are found in more than one situation, as on land, in fresh and in salt water ; 2ndly, where one or more species of a genus, the species of which generally live in fresh water, are found in salt or in saltish water ; 3rdly, where one or more species of a genus, which is generally found in the sea, are, on the contrary, found in fresh water ; and, 4thly, where the same species of shell is found both in salt and in fresh water.

“ On the supposed Existence of Metamorphoses in the Crustacea.”
By J. O. Westwood, Esq., F.L.S. and Secretary to the Entomological Society. Communicated by J. G. Children, Esq., Sec. R.S.

The author refers the principal modifications of form which occur during the progressive development of animals to the three following heads : 1st, that of an animal produced from the egg in the form which it is destined to retain through life, its only change consisting in a series of moultings of the outer envelope, attended merely by an increase of size, and not by the acquisition of new organs ; 2ndly, when the animal, at its exclusion from the egg, exhibits the form which it continues to possess, subject to a series of moultings, during several of the last of which certain new organs are gradually developed ; and, 3rdly, when the form of the animal, at its exclusion from the egg, is totally different from that under which it appears at the later periods of its existence ; such change of form taking place during two or three of its general moultings, and consisting, not only in the variation of the form of the body, but also in a complete change in the nutritive and digestive systems, and in the acquisition of various new organs. This last phenomenon peculiarly characterizes what is termed a *metamorphosis*.

It is the received opinion among naturalists that the Crustacea do not undergo metamorphoses, properly so called, and that the transformations they exhibit consist merely in the periodical shedding of the outer envelope. The object of the present paper is to establish the correctness of this opinion, in opposition to that of Mr. J. V. Thompson, who has laid claim to the discovery that the greater number of the animals belonging to the class Crustacea actually undergo